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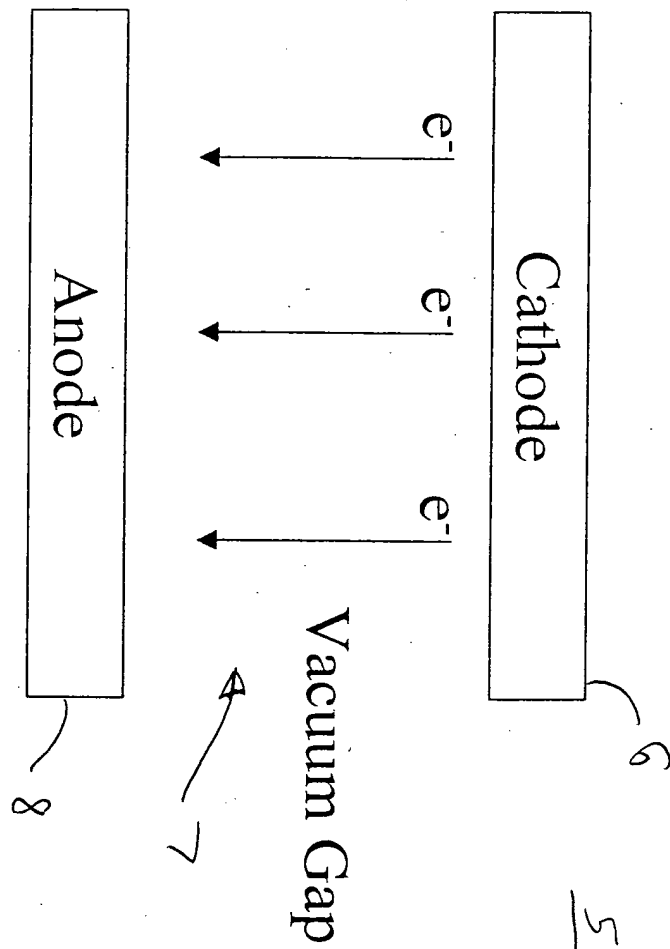


FIG. 1

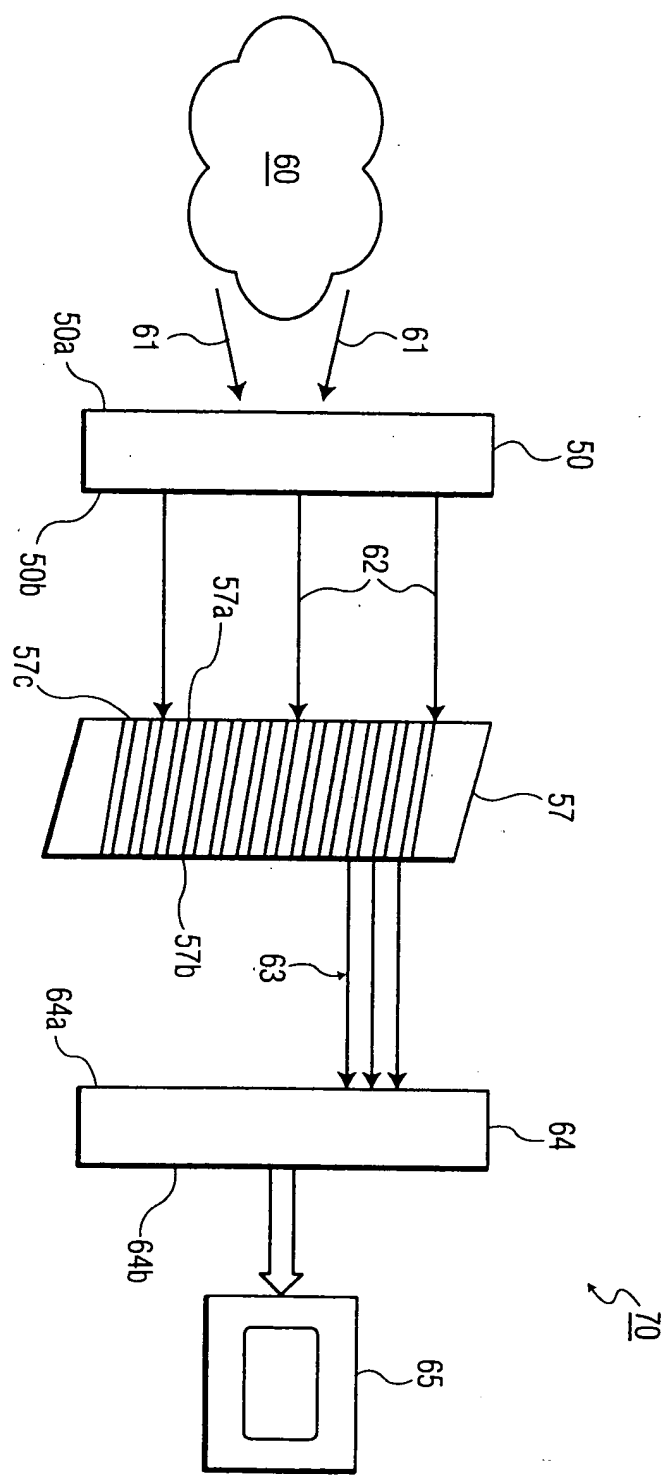
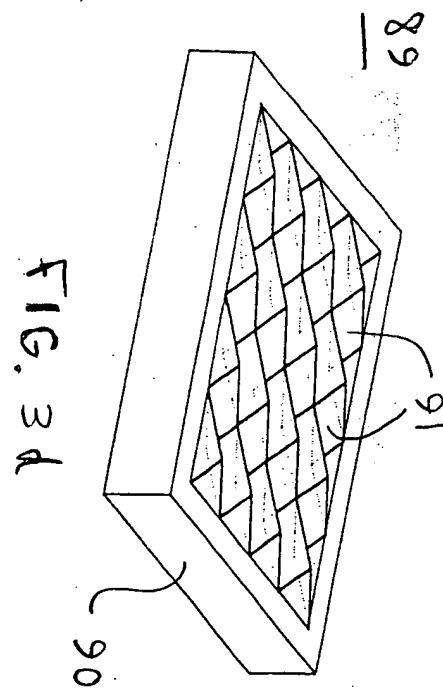
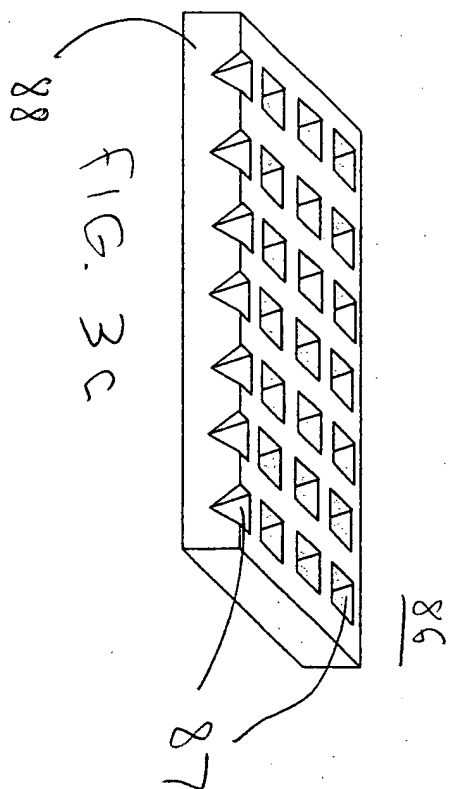
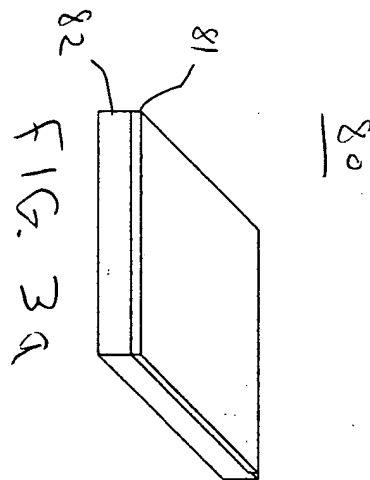
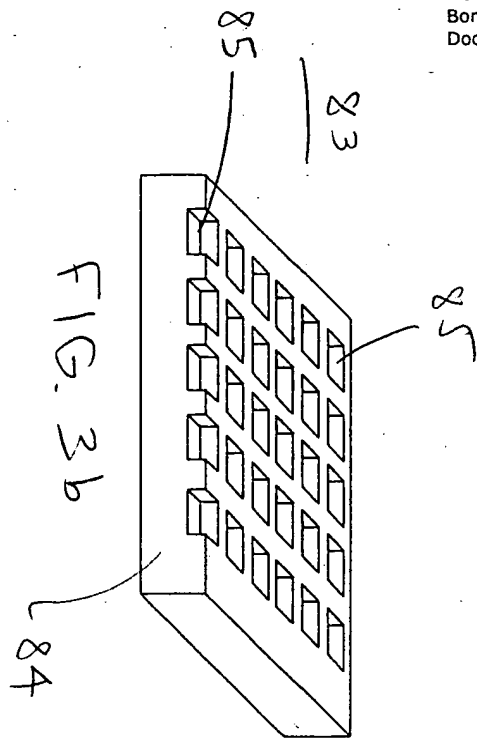
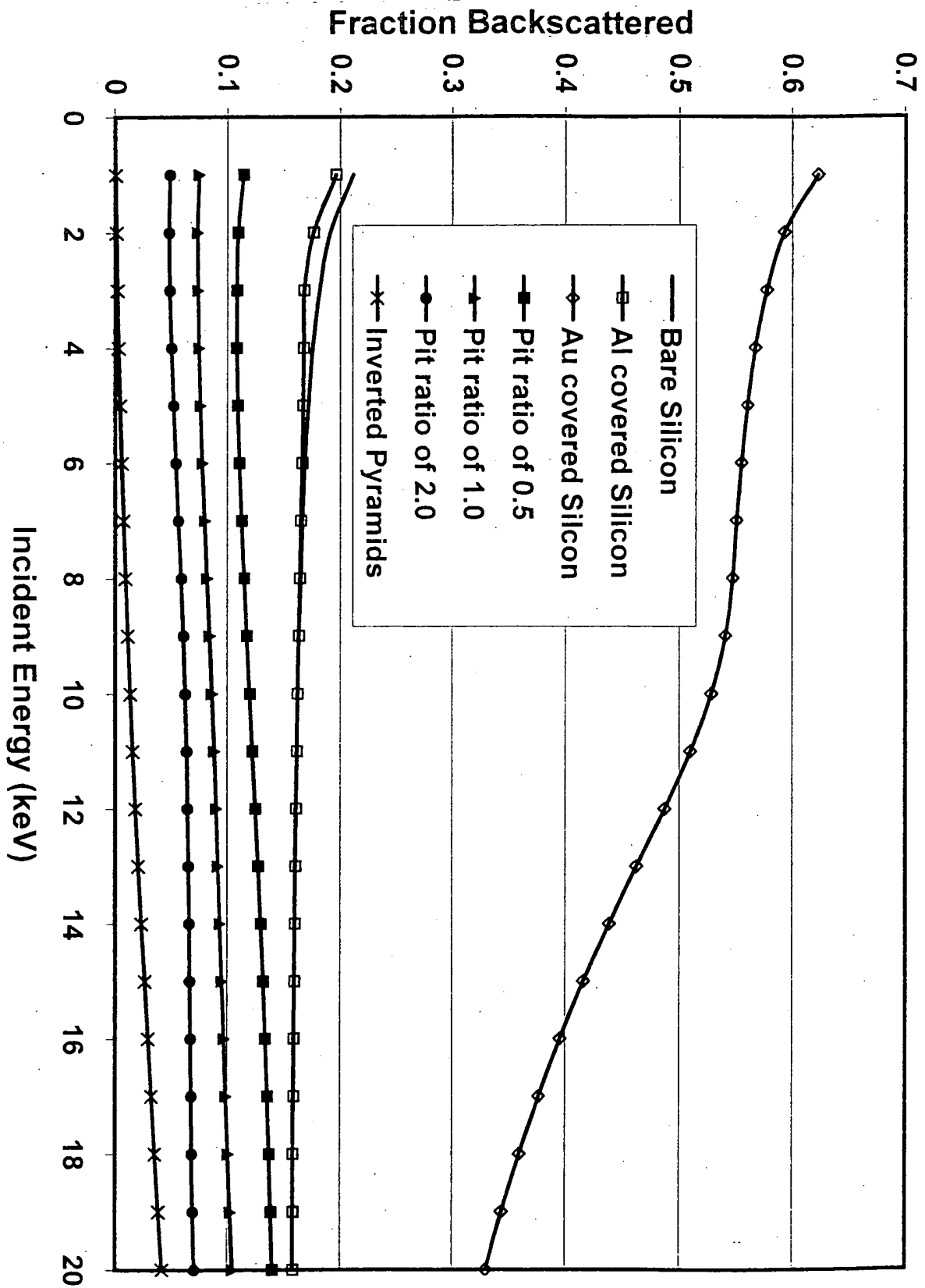


FIG. 2





F15.4

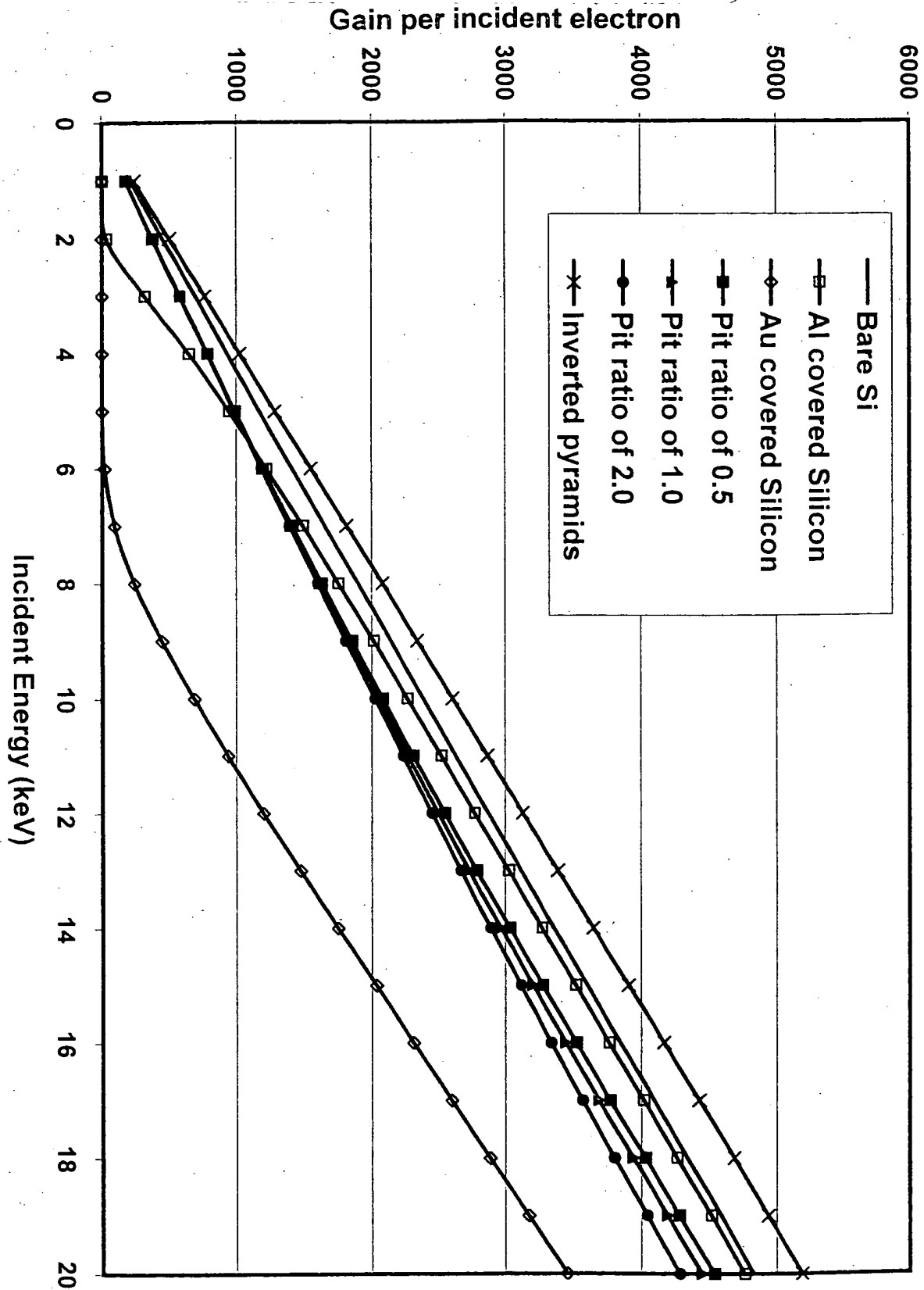


FIG. 5

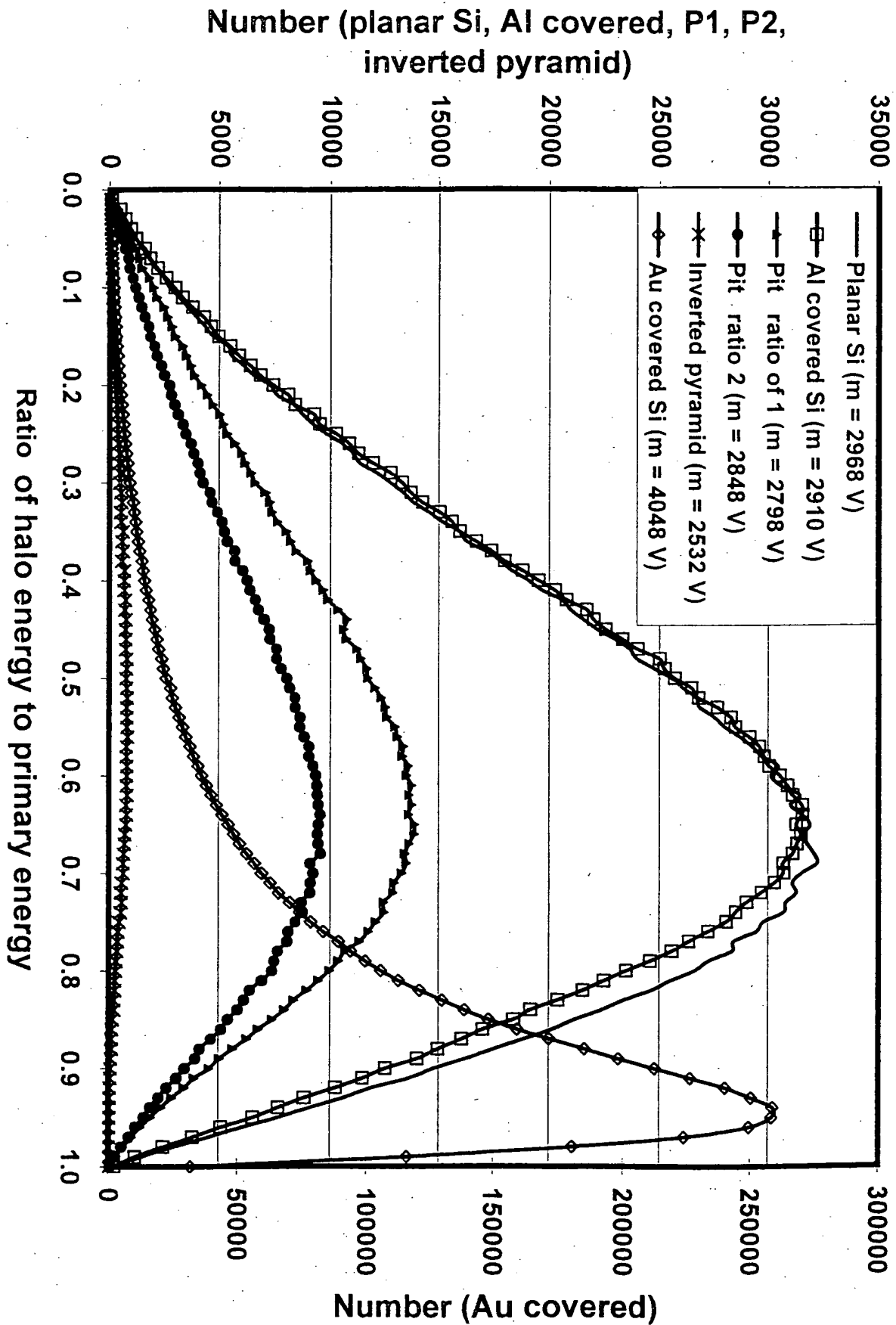


FIG. 6a

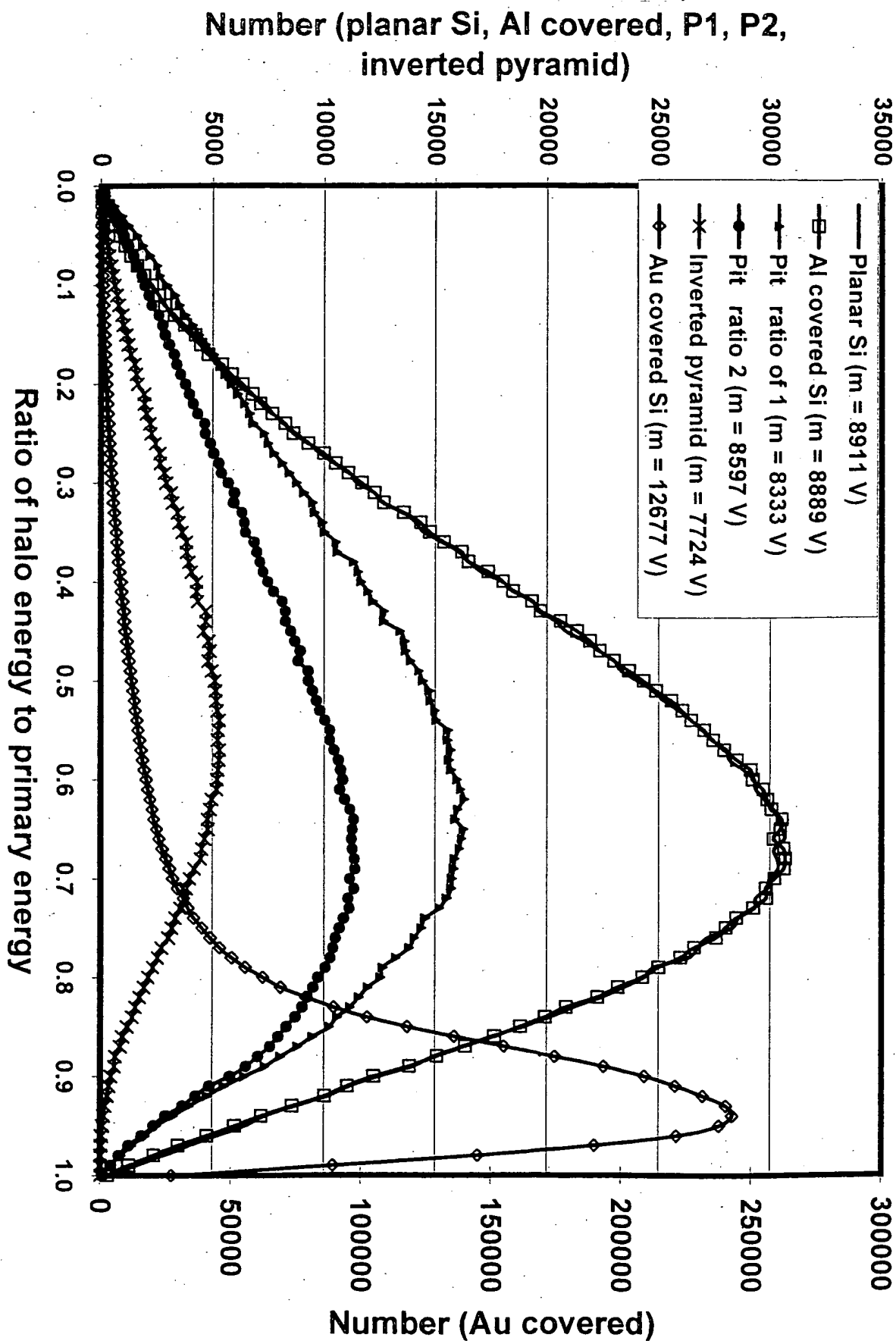


FIG. 6b

Ratio of halo gain to total gain

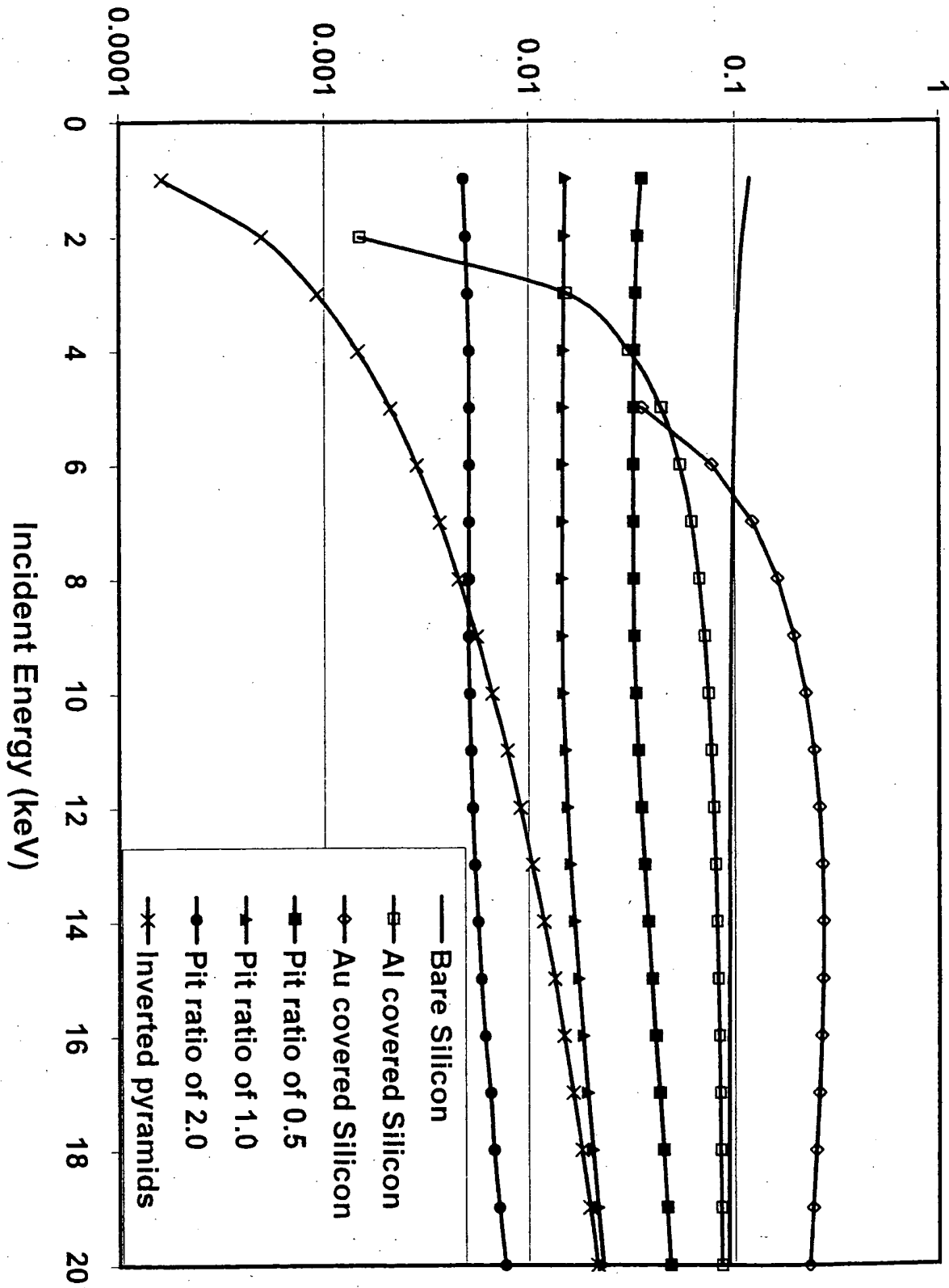


FIG. 7

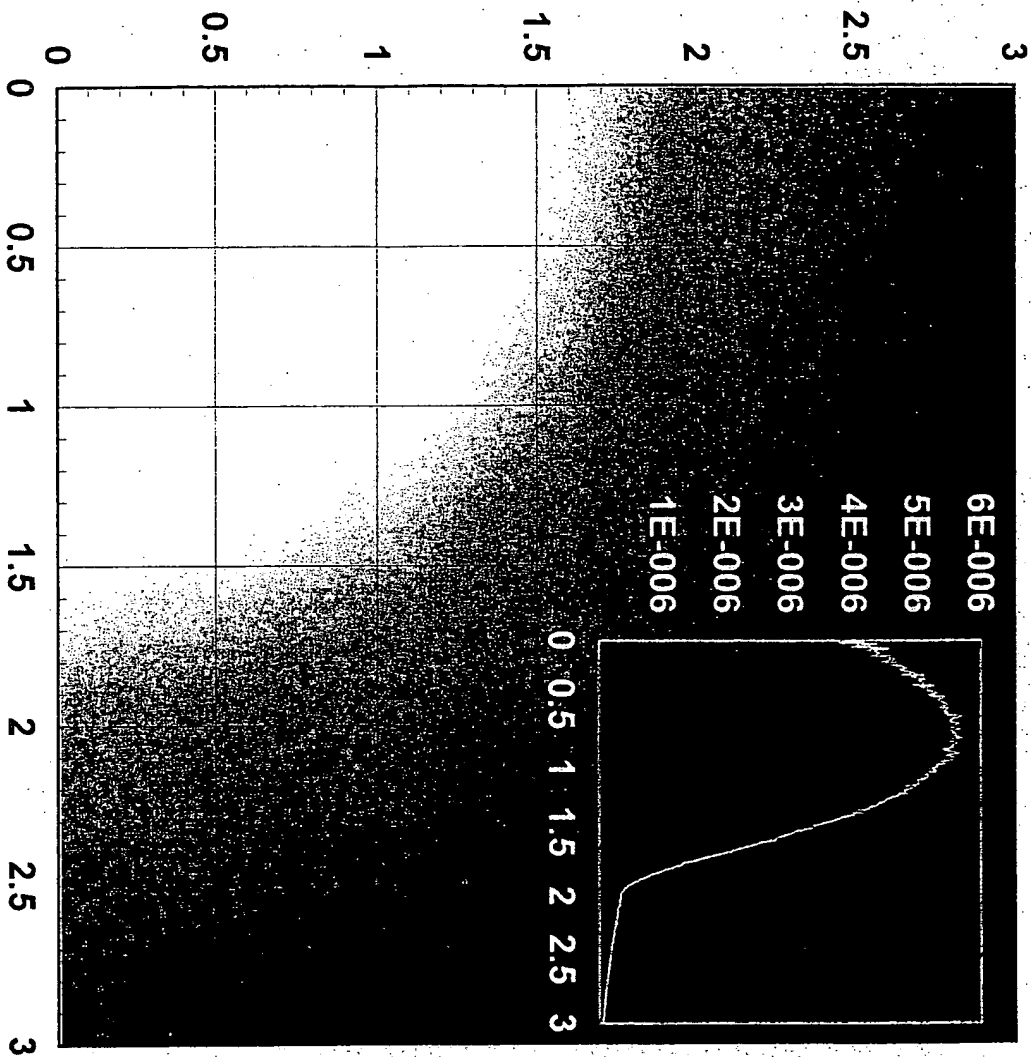


FIG. 8 a Planar silicon

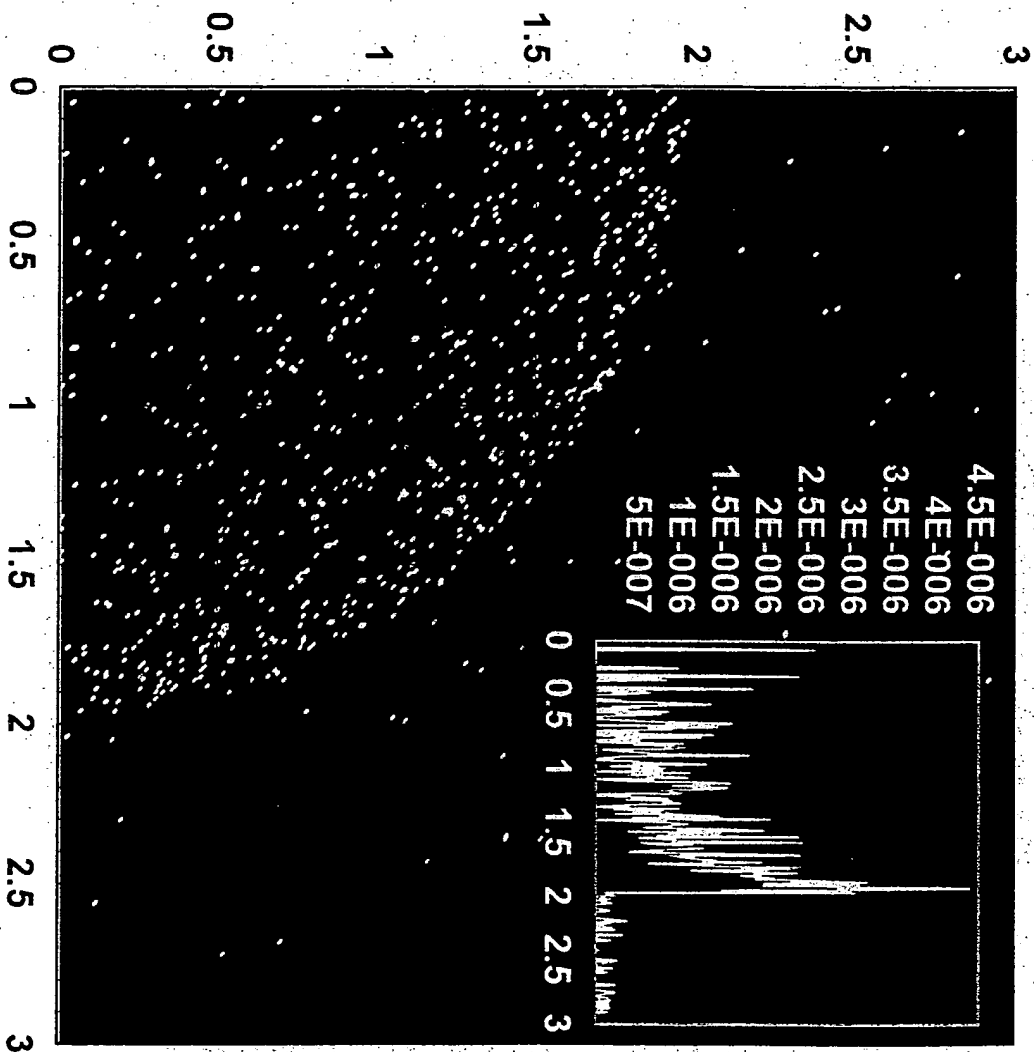


FIG. 8
b Planar silicon with 500 Å Au overcoat

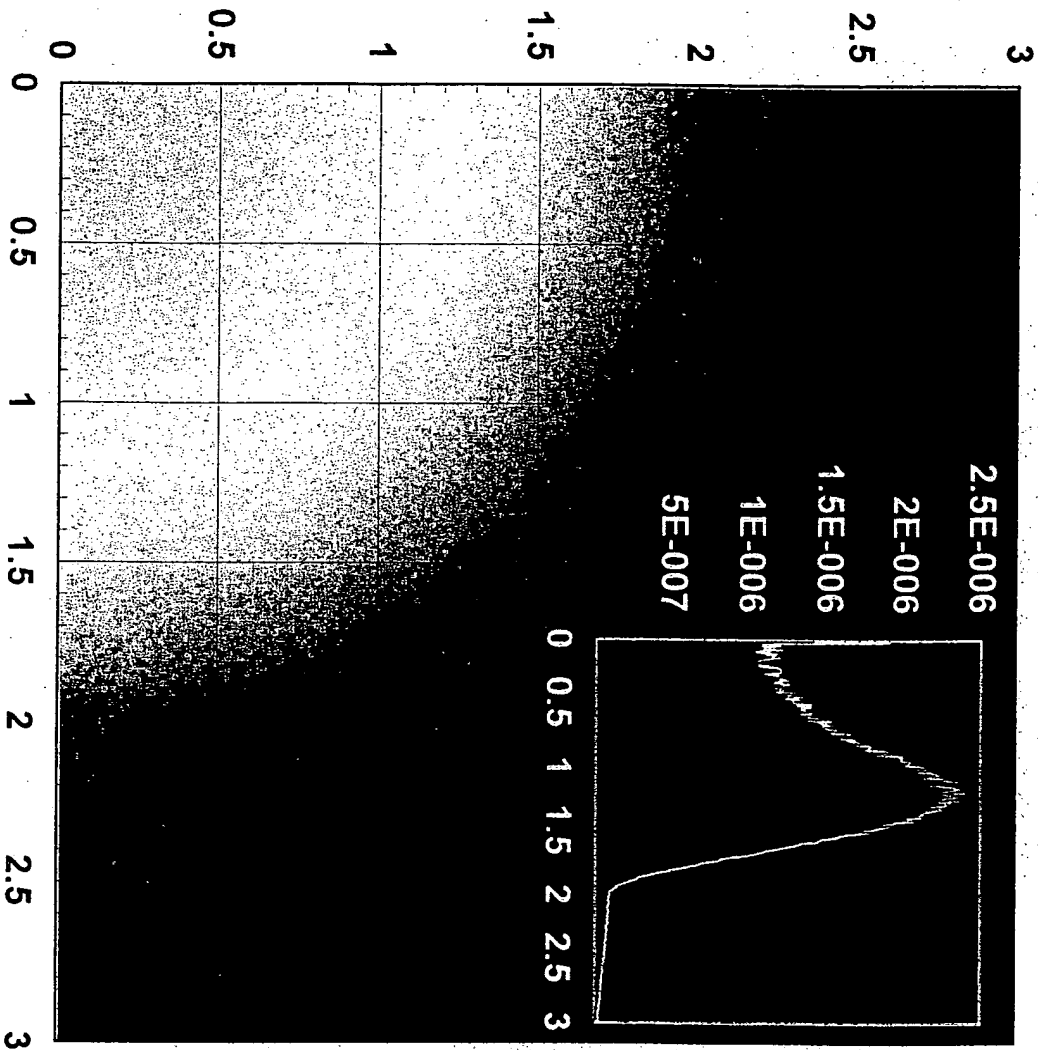


FIG. 8 c Planar silicon with 500 Å Al overcoat

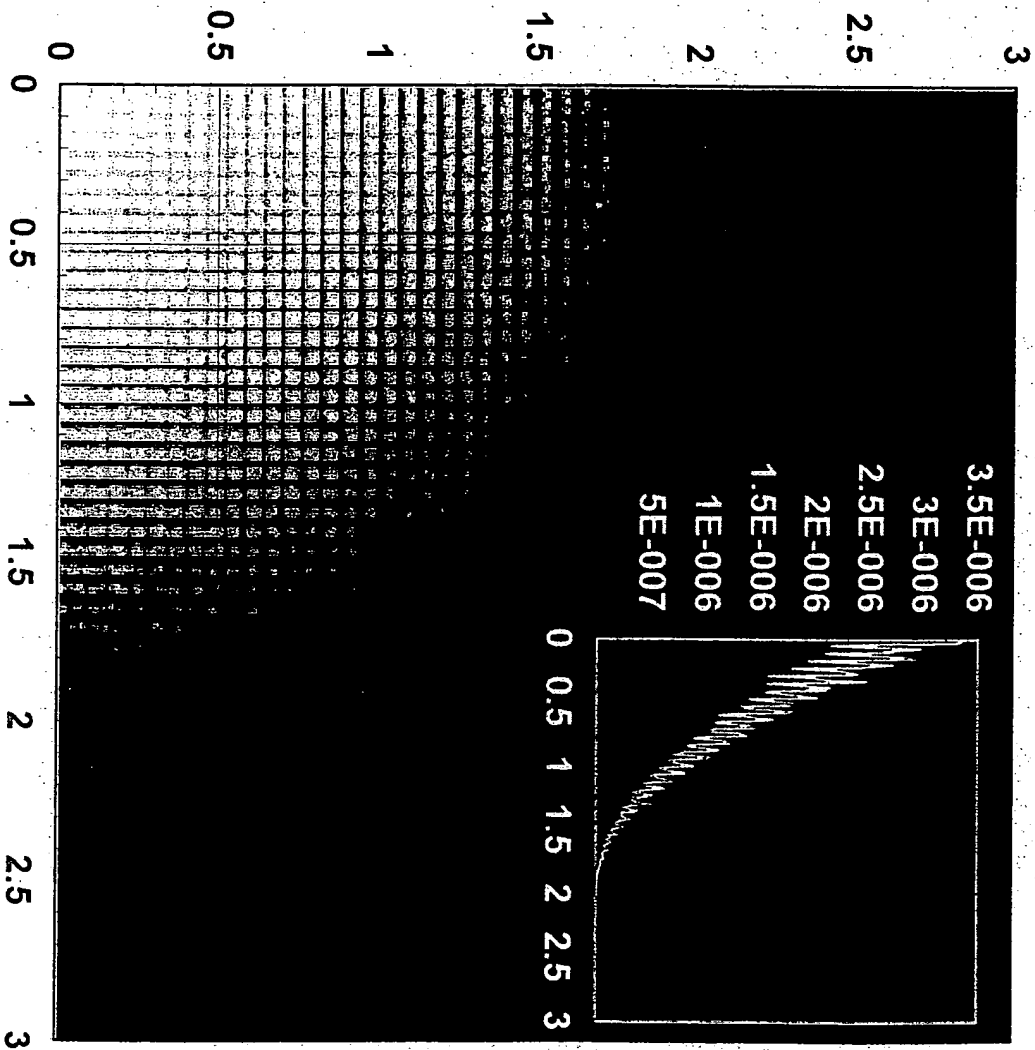


FIG. 8 d Pit with depth to pitch ratio of 1 (6 μm pitch pit)

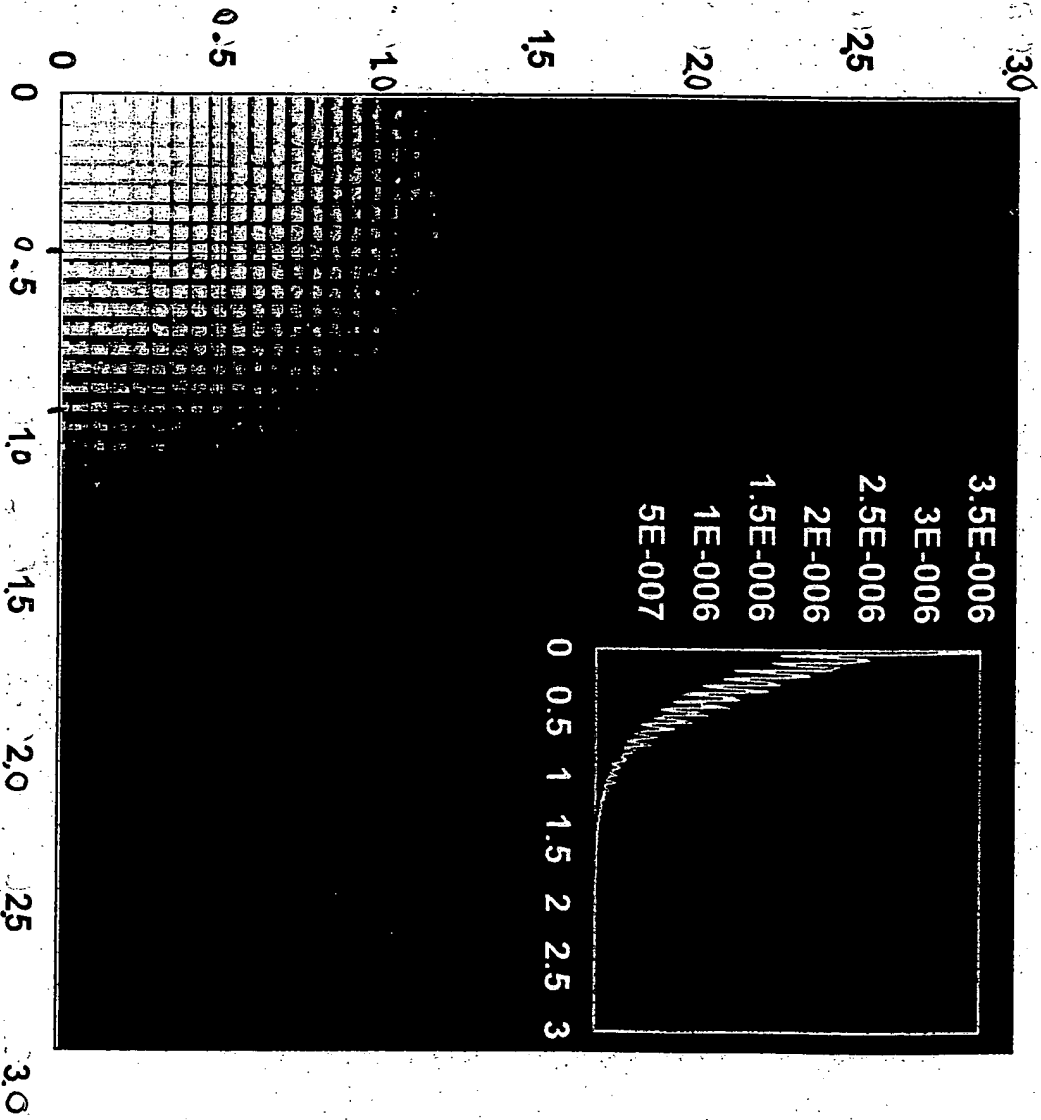
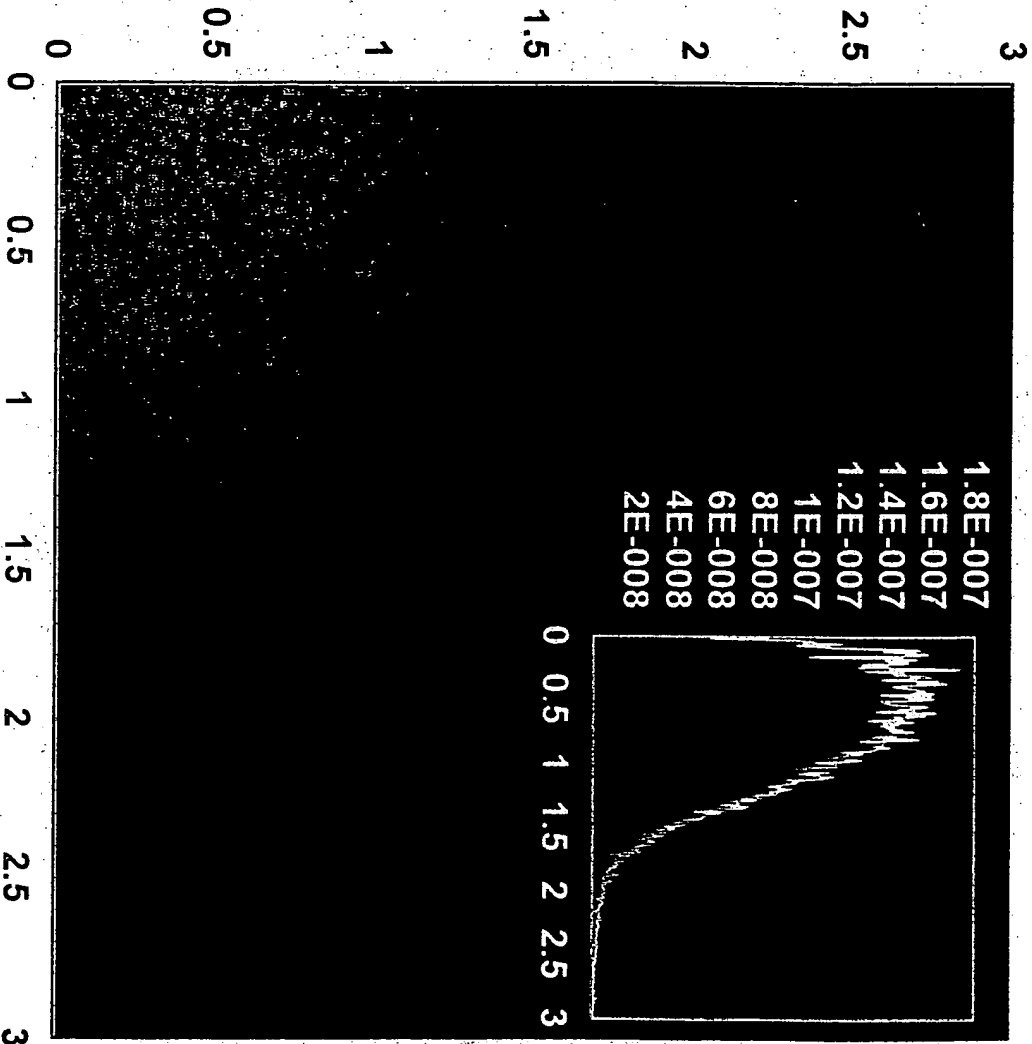


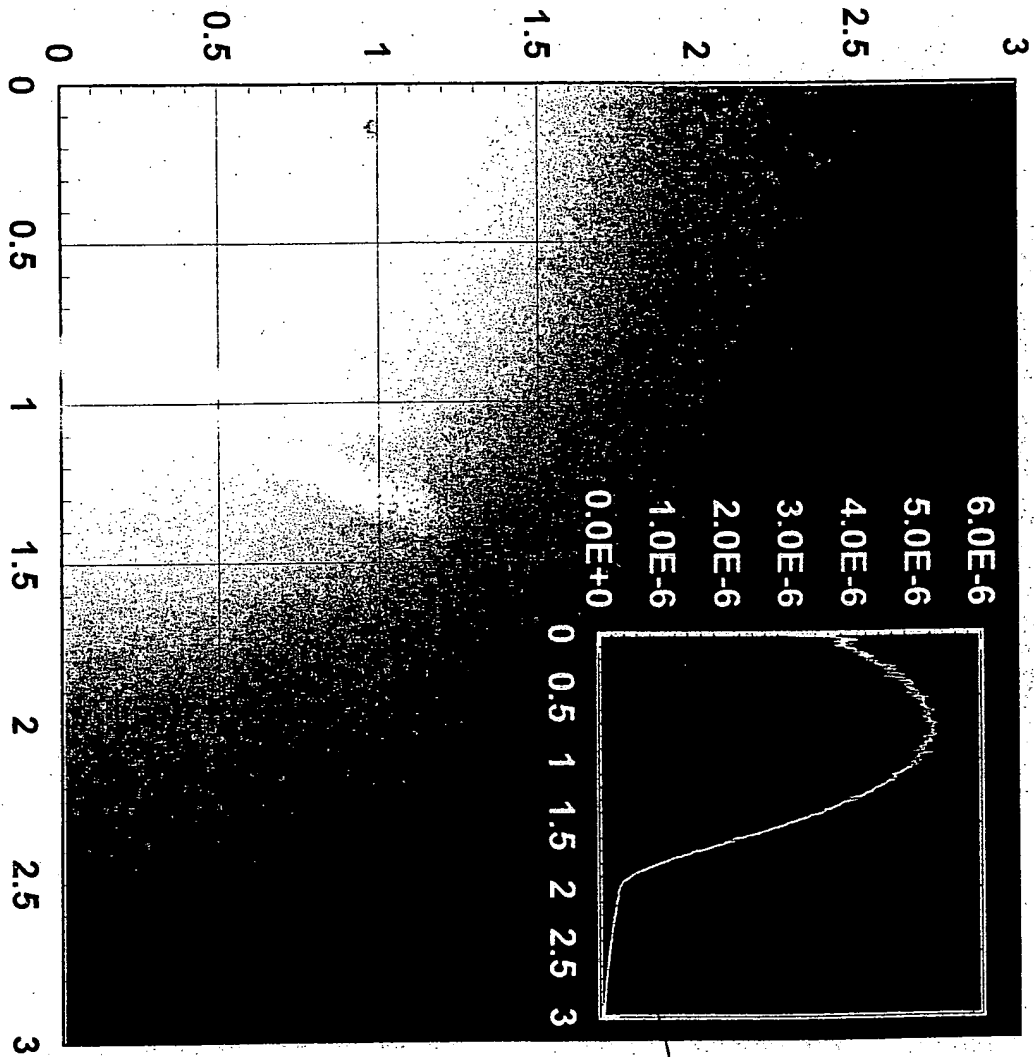
FIG. 8 e Pit with depth to pitch ratio of 2 (6 μ m pitch pit)



Intensity (Normalized to Al)

3.55E-06+
3.23E-06 to 3.55E-06
2.90E-06 to 3.23E-06
2.58E-06 to 2.90E-06
2.26E-06 to 2.58E-06
1.94E-06 to 2.26E-06
1.61E-06 to 1.94E-06
1.29E-06 to 1.61E-06
9.68E-07 to 1.29E-06
6.45E-07 to 9.68E-07
3.23E-07 to 6.45E-07
0.00E+00 to 3.23E-07

FIG. 8 f Inverted Pyramid (6 micron pitch)



→ "Secondary
halo"

FIG. 9 a Planar silicon

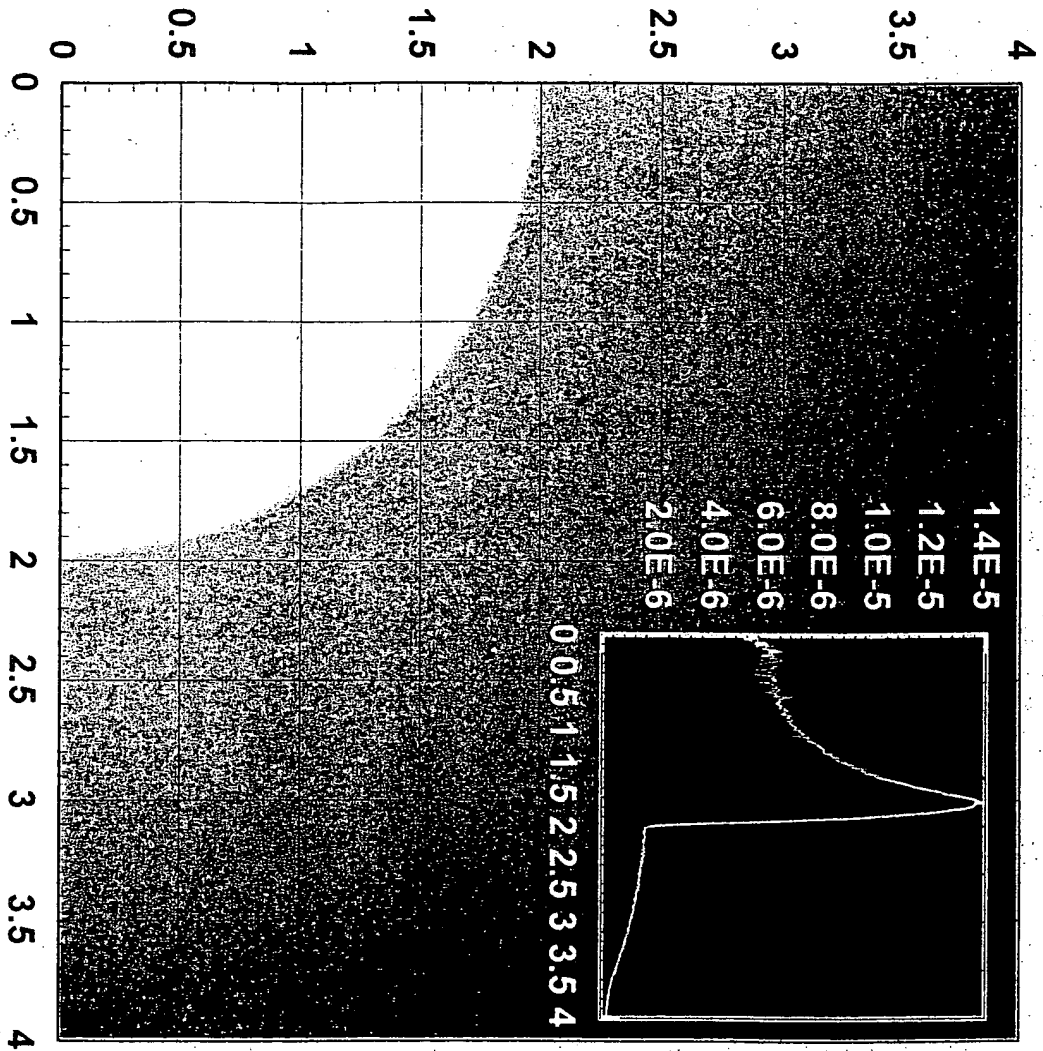


FIG. 9b

Planar silicon with 500 Å Au

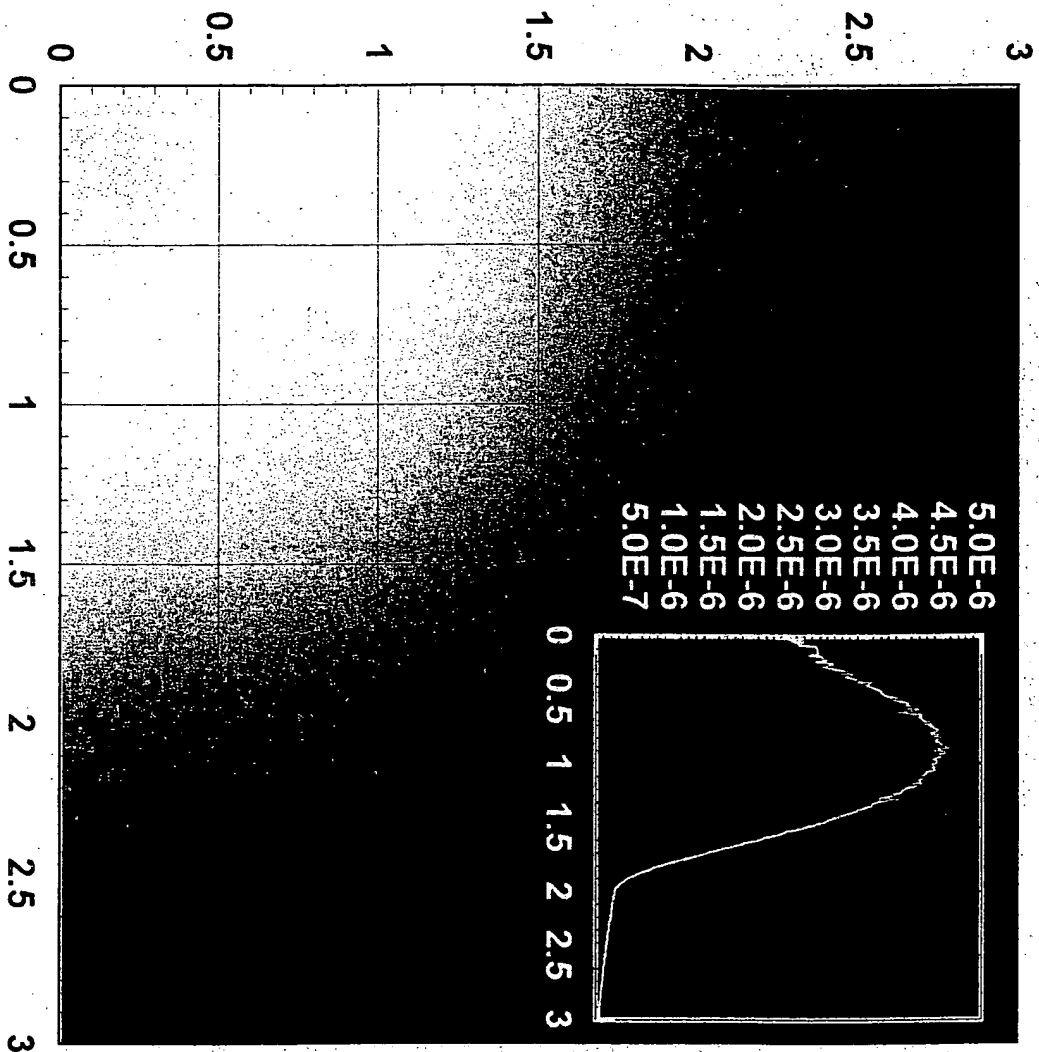


FIG. 9c Planar silicon with 500 Å Al

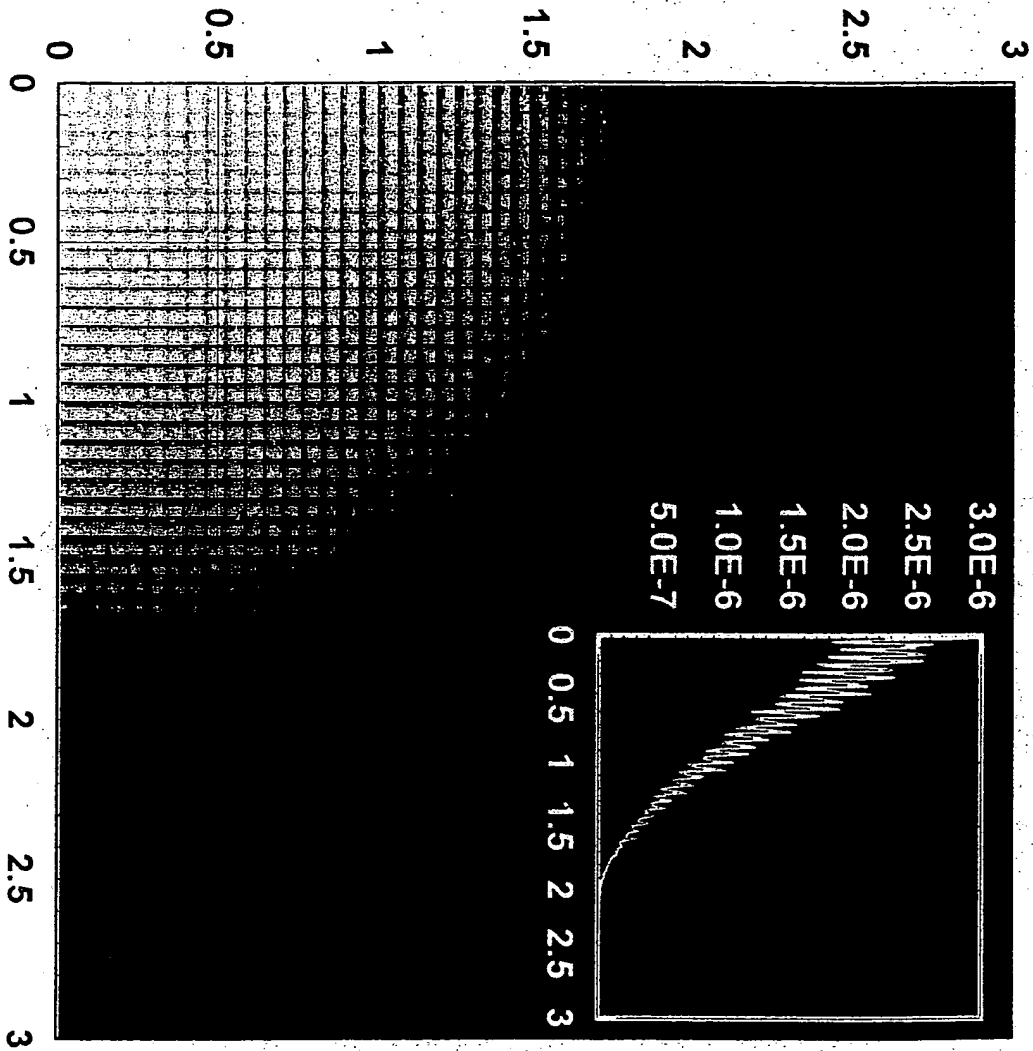


FIG. 9 d Pit with depth to pitch ratio of 1

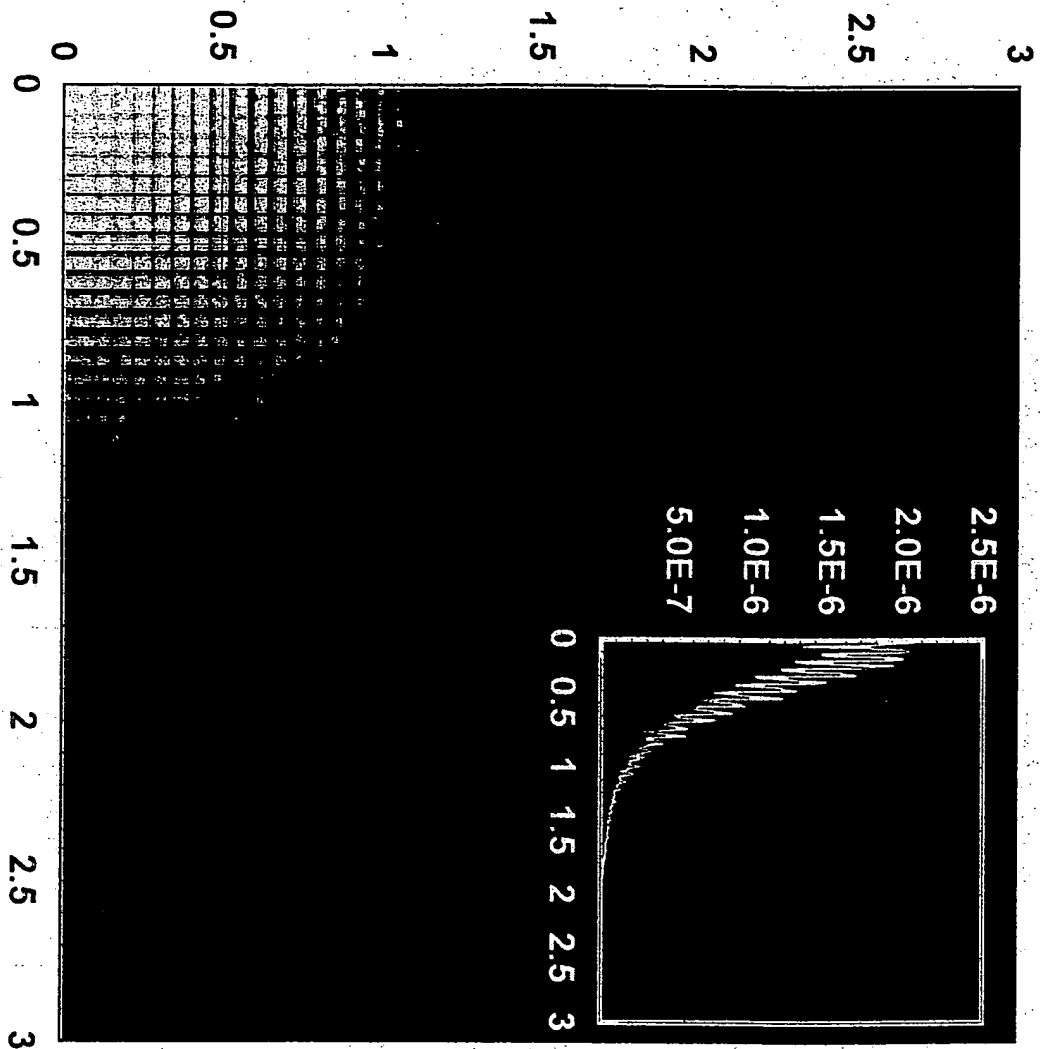
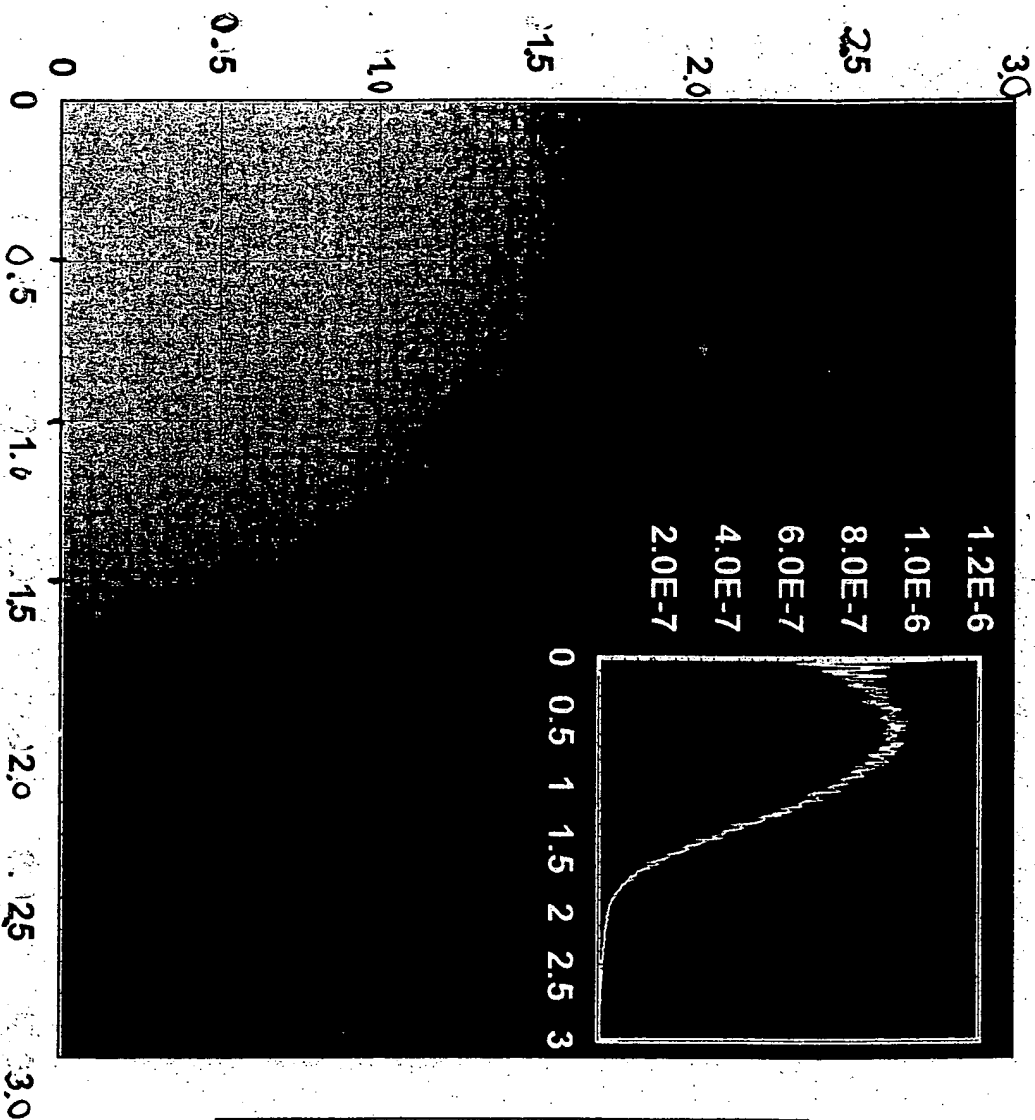


FIG. 9 e Pit with depth to pitch ratio of 2



Intensity (normalized to Al)

5.78E-06+

5.25E-06 to 5.78E-06

4.73E-06 to 5.25E-06

4.20E-06 to 4.73E-06

3.68E-06 to 4.20E-06

3.15E-06 to 3.68E-06

2.63E-06 to 3.15E-06

2.10E-06 to 2.63E-06

1.58E-06 to 2.10E-06

1.05E-06 to 1.58E-06

5.25E-07 to 1.05E-06

0.00E+00 to 5.25E-07

Fig. 9 f Inverted Pyramids

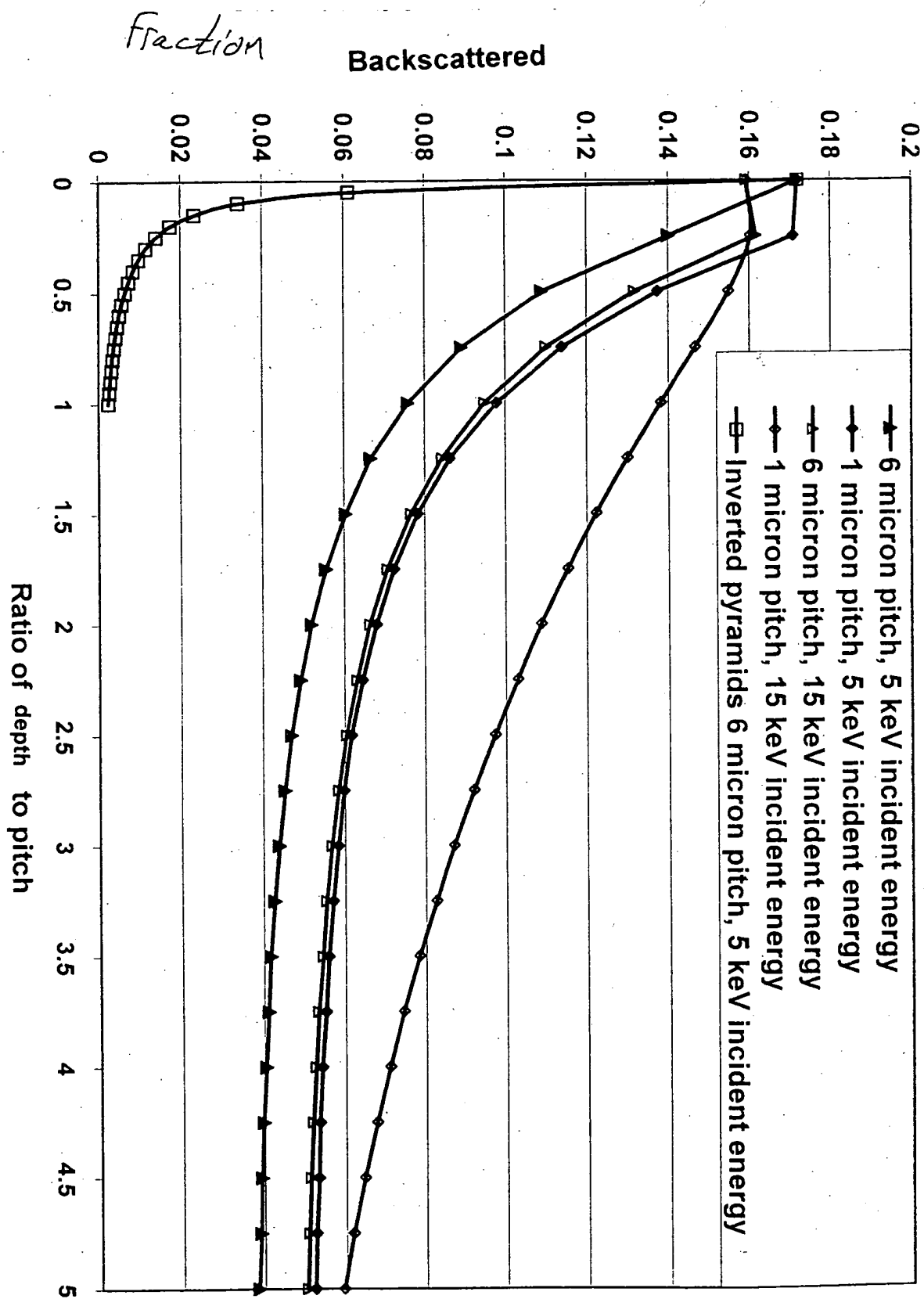


FIG. 10

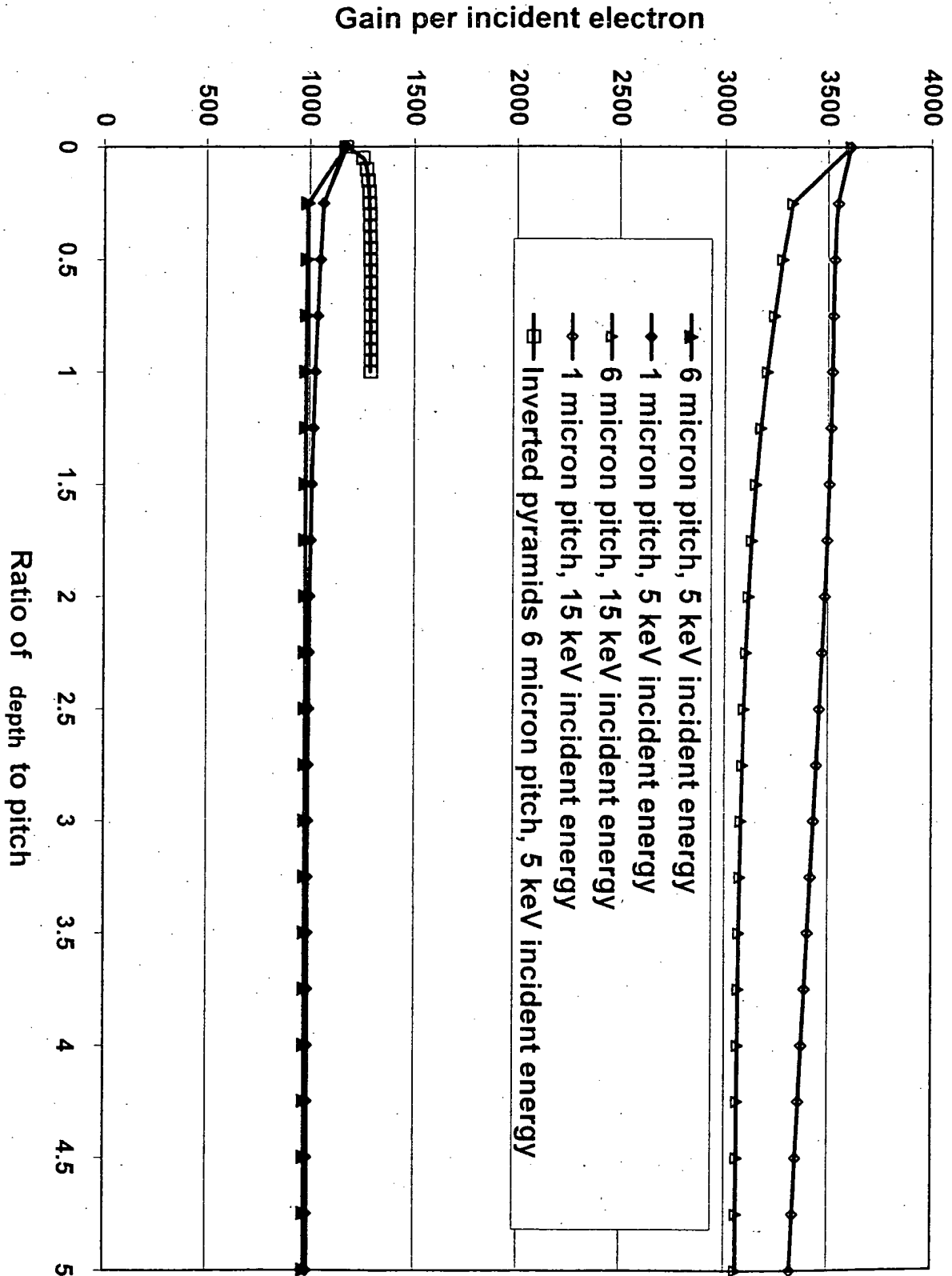


FIG. 11

Ratio of halo gain to total gain

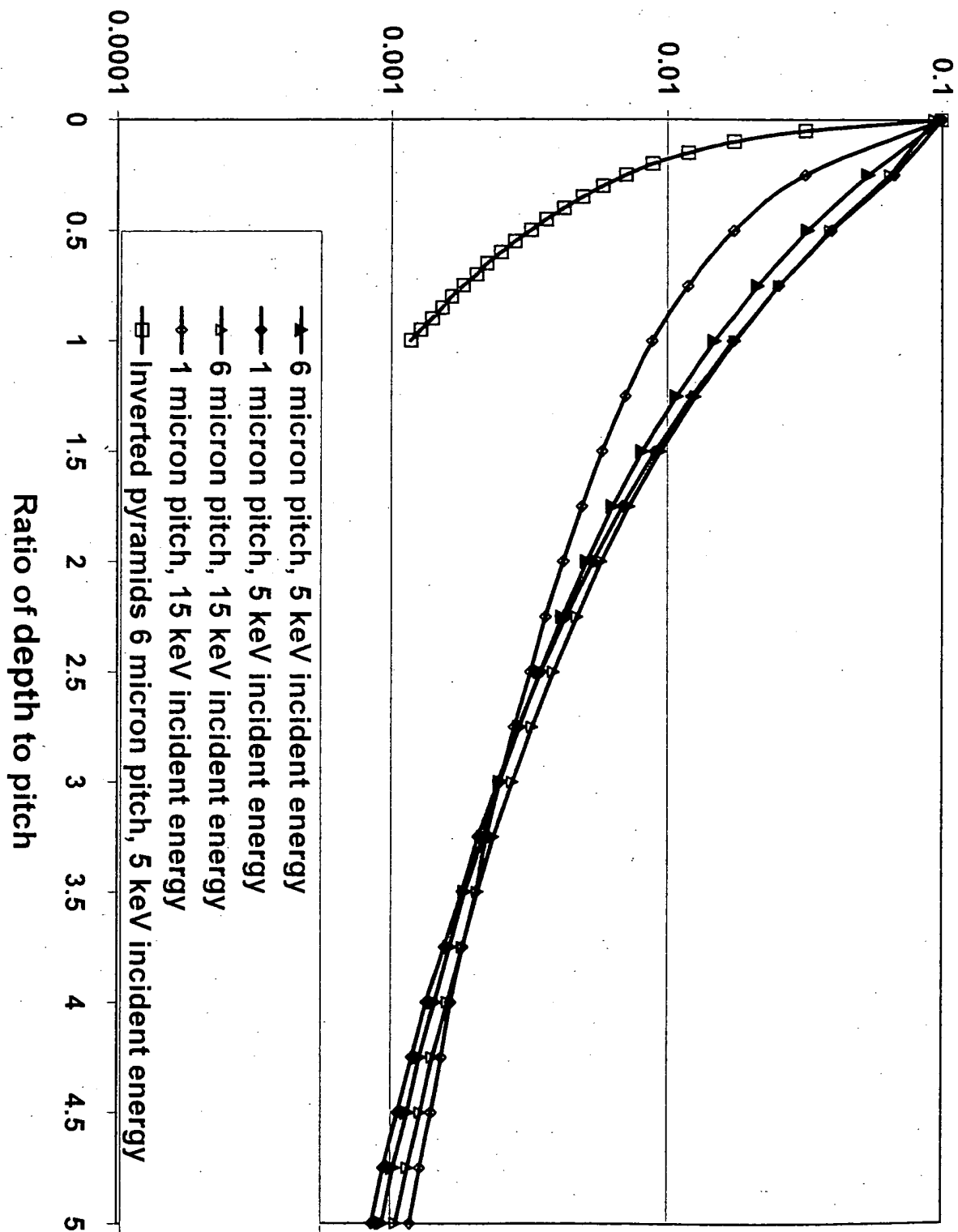
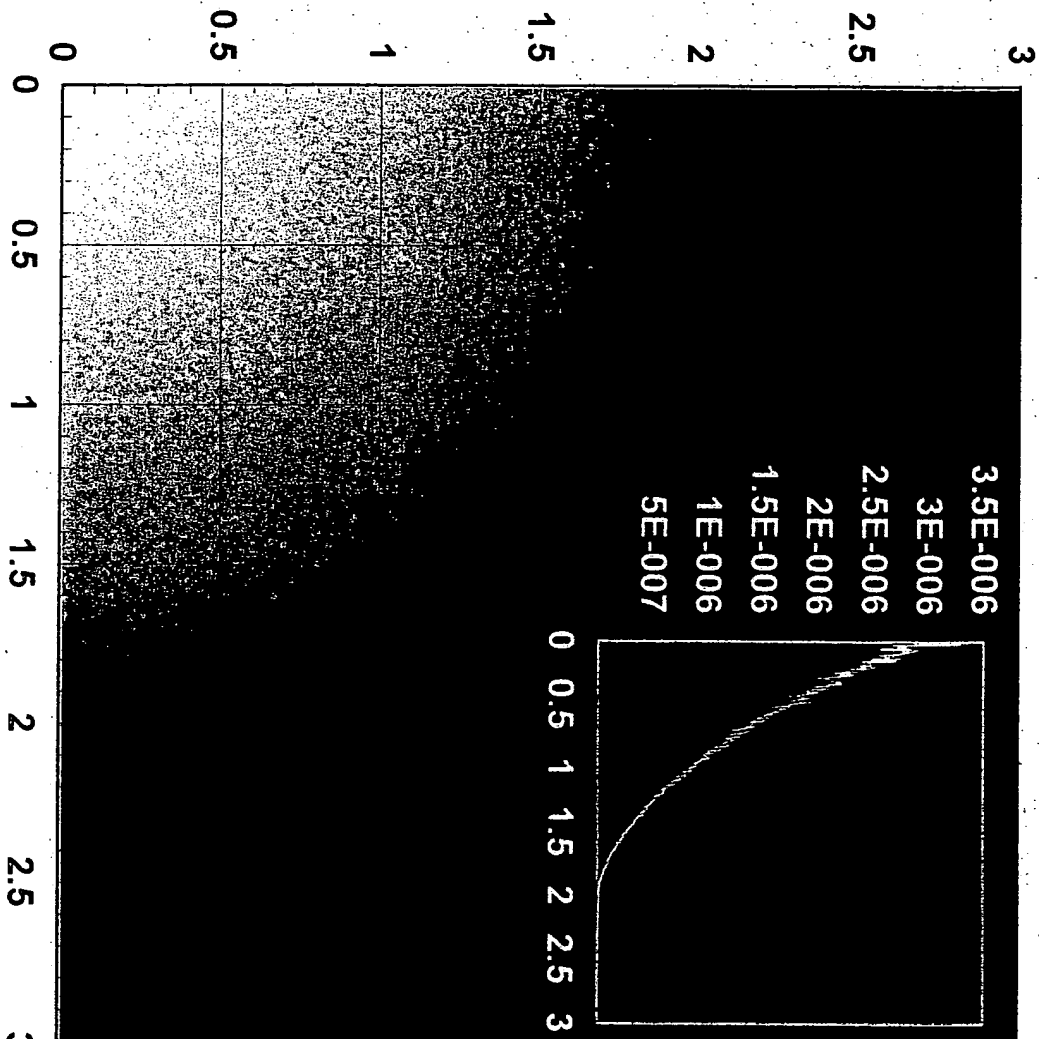


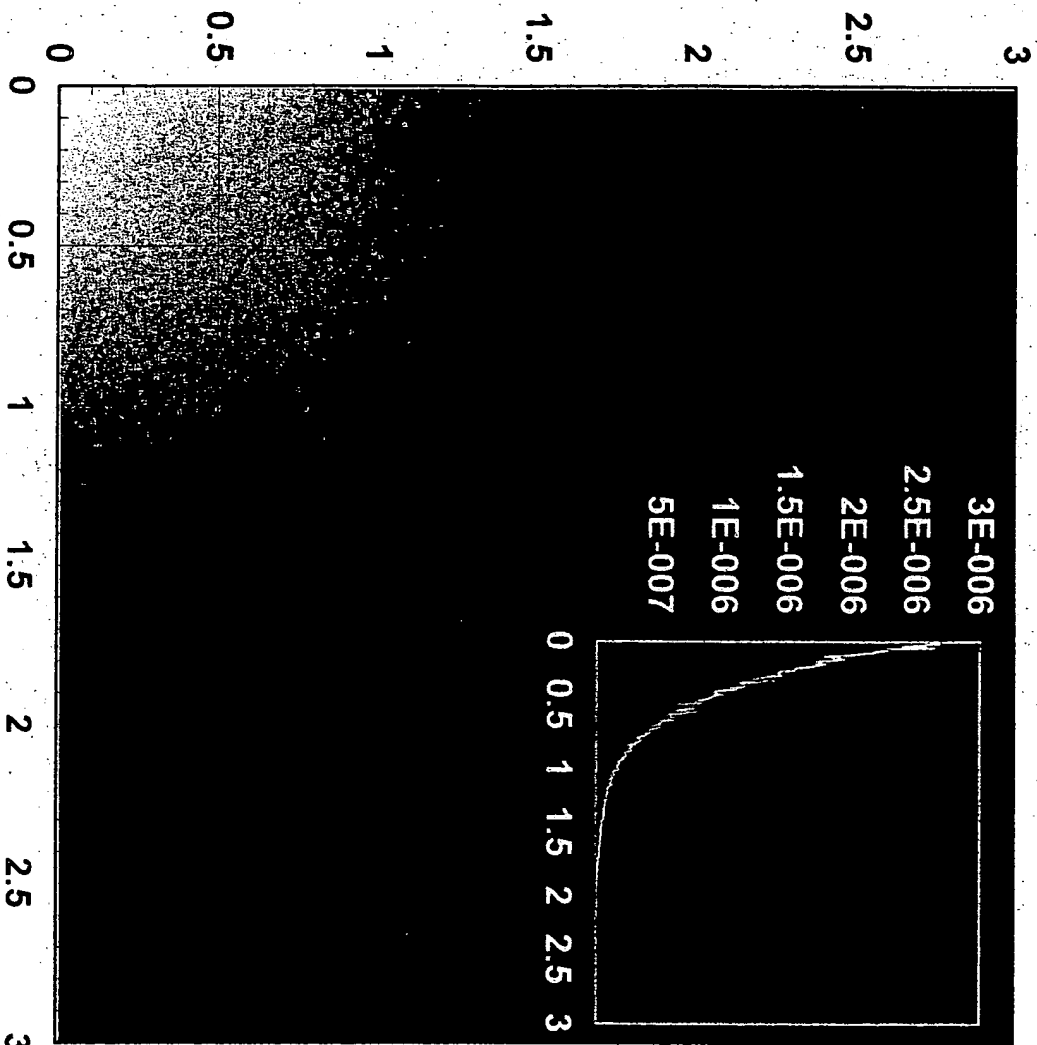
FIG. 12



Intensity (Normalized to Al)

3.55E-06+
 3.23E-06 to 3.55E-06
 2.90E-06 to 3.23E-06
 2.58E-06 to 2.90E-06
 2.26E-06 to 2.58E-06
 1.94E-06 to 2.26E-06
 1.61E-06 to 1.94E-06
 1.29E-06 to 1.61E-06
 9.68E-07 to 1.29E-06
 6.45E-07 to 9.68E-07
 3.23E-07 to 6.45E-07
 0.00E+00 to 3.23E-07

Fig. 13a 1 μ m Pitch Pits, depth to pitch ratio of 1



Intensity (Normalized to Al)

3.55E-06+
 3.23E-06 to 3.55E-06
 2.90E-06 to 3.23E-06
 2.58E-06 to 2.90E-06
 2.26E-06 to 2.58E-06
 1.94E-06 to 2.26E-06
 1.61E-06 to 1.94E-06
 1.29E-06 to 1.61E-06
 9.68E-07 to 1.29E-06
 6.45E-07 to 9.68E-07
 3.23E-07 to 6.45E-07
 0.00E+00 to 3.23E-07

FIG. 13 b 1 μm Pitch Pits, depth to pitch ratio of 2